

Appln. No.: 10/067,563  
Amendment Dated November 28, 2005  
Response to Office Action of August 26, 2005

MATI-210US

**Remarks/Arguments:**

Claims 1-18 are pending and stand rejected.

By this Amendment, claims 1, 2, 5-8, 11-14 17 and 18 are amended.

No new matter is added by the amendments, and accordingly, entry and approval of same is respectfully requested. Support for the claim amendments is found throughout the original specification, and, more particularly, in original claims 1 and 6 and in the specification at paragraphs 0004 through 00013.

**Rejection of Claim 12 Under 35 U.S.C. § 112, second paragraph**

In the Action at Item 5, claim 12 is rejected under 35 U.S.C. §112, second paragraph, as being indefinite.

Claim 12 has been amended to overcome this rejection.

Reconsideration is respectfully requested.

**Rejection of Claims 1-18 Under 35 U.S.C. § 101**

In the Action at item 8, claims 1-18 are rejected under 35 U.S.C. §101, as lacking utility because the invention as claimed produces no tangible result.

In the Action at items 9 and 11, it is asserted that claims 1-6 and 13-18 are rejected under 35 U.S.C. §101, as lacking utility because the invention as claimed produces no concrete or tangible means.

Applicants respectfully disagree with this assertion.

**U.S.C. § 101**

It is well established that to meet 35 U.S.C. § 101 requirements an invention must produce a useful, concrete and tangible result. The "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" at pages 21-22, sets forth Guidelines for determining what is a concrete and tangible result and states in part that:

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"[t]he tangible [result] requirement does not necessarily mean that a claim must either be tied to a particular machine or apparatus or must operate to change articles or materials to a different state or thing. However the tangible requirement does require that the claim must recite more than a §101 judicial exception, in that the process claim must set forth a practical application of §101 judicial exception to produce a real-world result. Benson, 409 U.S. at 71-72, 175 USPQ at 676-77... "[A]n application of a law of nature or mathematical formula to a ... process may well be deserving of patent protection." Diehr, 450 U.S. at 187, 209 USPQ at 8 (emphasis added); see also Corning 56 U.S (15 How.) at 268, 14 L.Ed. 683 ("It is for the discovery or invention of some practical method or means of producing a beneficial result or effect, that a patent is granted ..."). In other words, the opposite meaning of "tangible" is "abstract"... The process must have a result that can be substantially repeatable or the process must substantially produce the same result again. In re Swartz, 232 F.3d 862, 864, 56 USPQ2d 1703, 1704 (Fed Cir. 200) ... The opposite of "concrete" is unrepeatable or unpredictable."

As an example, claim 1 is directed to a method for performing modular division operations used in a cryptographic process that generates a cryptographic key. A cryptographic key is a concrete, useful and tangible result because it can be used to encrypt or decrypt data and, so, is useful, it is not abstract and, so is tangible and it is repeatable and, so is concrete. Thus, the claimed invention recited in claim 1 is more than an abstract result as it produces a useful, concrete and tangible result (i.e., the cryptographic key).

Accordingly, it is submitted that the rejection of claim 1 under 35 U.S.C. § 101 is overcome.

Claims 6, 7, 12 13 and 18 include similar recitations to those of claim 1, and it is requested that the rejection of these claims under 35 U.S.C. § 101 be withdrawn.

Accordingly, it is submitted that the rejection of claims 13 and 18 related to item 8 is overcome.

Claims 2-5, 8-12 and 14-17, depend from their respective independent claims and it is submitted that the rejection of these claims related to item 8 is also overcome.

Reconsideration is respectfully requested.

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The Examiner has not provided a prima facie case that the claimed invention has no concrete result, as mathematical algorithms, which the Examiner alleges are recited by the claimed invention are repeatable and predictable. It is submitted that the present invention of claims 1-6 and 13-18 are concrete within the meaning of repeatability and predictability.

Accordingly, it is submitted that claims 1-6 and 13-18 overcome the rejection related to item 9 for the above-noted reasons.

In the Action at item 10, claims 7-12 are rejected under 35 U.S.C. §101, as being directed to a computer carrier, because "the stated computer readable carriers do not conform to patentable statutory subject matter." As defined in the specification, the term "carrier" includes an audio-frequency, radio-frequency or optical carrier wave.

This ground for rejection is respectfully traversed. MPEP § 2106(IV)(B)(1)(C) states:

Claims that recite nothing but the physical characteristics of a form of energy, such as a frequency, voltage, or the strength of a magnetic field, define energy or magnetism, *per se*, and as such are nonstatutory natural phenomena. *O'Reilly v. Morse*, 56 U.S. (15 How.) 62, 112-14 (1853). **However, a signal claim directed to a practical application of electromagnetic energy is statutory regardless of its transitory nature. See *O'Reilly*, 56 U.S. at 114-19; *In re Breslow*, 616 F.2d 516, 519-21, 205 USPQ 221, 225-26 (CCPA 1980). (Emphasis added).**

Applicants respectfully submit that claims 7-12, to the extent that they include radio frequency or optical carrier waver, are signal claims directed to a practical application of electromagnetic energy (i.e. the transmission of functional descriptive material) and, as such recite statutory subject matter. Audio frequency carrier waves, although not electromagnetic radiation, have many of the same characteristics as radio frequency and optical carrier waves, at least as they are used in claims 7-12. Accordingly, claims 7-12, to the extent that they include audio frequency carrier waves are statutory for the same reasons.

Reconsideration of the rejection of claims 7-12 under 35 U.S.C. § 101 is respectfully requested.

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**Rejection of Claims 1, 7 and 13 Under 35 U.S.C. § 102(e)**

In the Action at item 13, claims 1, 7 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Hars et al. (U.S. Patent No. 6,763,366).

**Claim 1**

Claim 1 is directed to a method for performing modular division operations used in a cryptographic process to produce a cryptographic key, and recites "determining whether U3 has a number, N, of zero-valued least significant bits (LSBs), where N is an integer greater than two, and if N is greater than two, combining multiple ones of the plurality of reduction steps for calculating the GCD; and combining multiple ones of the plurality of inversion calculations; and if N is not greater than 2, performing a single one of the reduction steps; and performing a single one of the inverse calculation steps." That is, a condition (i.e., U3 has a number, N, of zero-valued least significant bits (LSBs), where N is an integer greater than two) is determined, and the condition directs other steps in the method.

Hars et al. is silent regarding the above-mentioned condition. This is because, Hars et al. is concerned with tracking the number of times that U3 and V3 have been divided by two in the process of calculating the GCD and the correction of the arithmetic inverse for these divisions in a single step.

Accordingly, claim 1 is submitted to patentable distinguish over Hars et al. for the above-noted reasons and is submitted to be allowable.

**Claims 7 and 13**

Claims 7 and 13, although not identical to that of claim 1, include similar patentable features to those of claim 1, and are submitted to be allowable for at least similar reasons to those of claim 1.

It is noted that Hars et al. may not be combined with another reference under 35 U.S.C. §103 because the present application and Hars et al. are commonly owned by the same Assignee and were so at the time of filing the subject application.

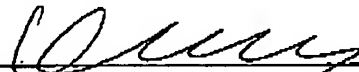
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**Conclusion**

In view of the claim amendments and remarks set forth above, Applicants request that the Examiner reconsider and withdraw the rejection of claims 1-18.

Respectfully submitted,

  
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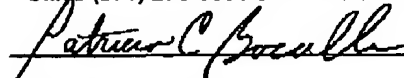
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I hereby certify that this correspondence is being facsimile transmitted to the United States Patent and Trademark Office (571) 273-8300 on the date shown below.

 11/28/2005  
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